(No Model.)

F. B. COCHRAN.

COIN OPERATED MACHINE.

No. 434,768. Patented Aug. 19, 1890.

Fig. 1.

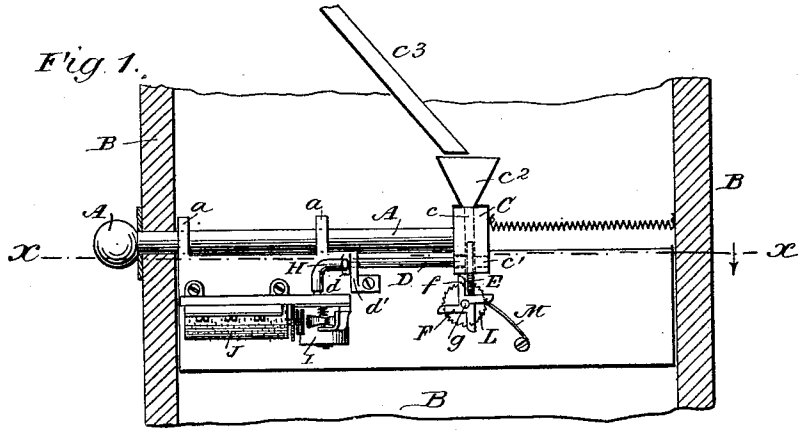


Fig. 2.

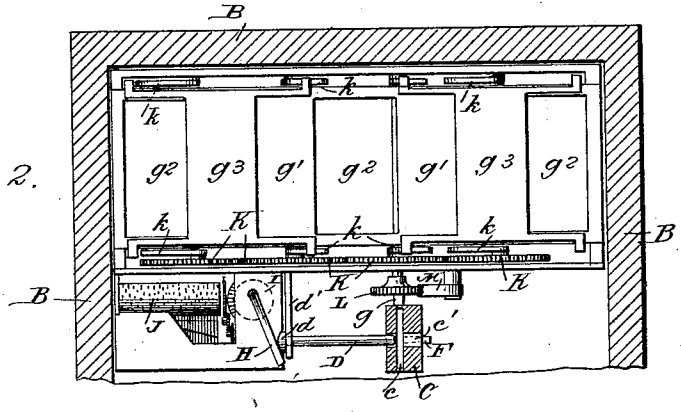


Fig. 3.

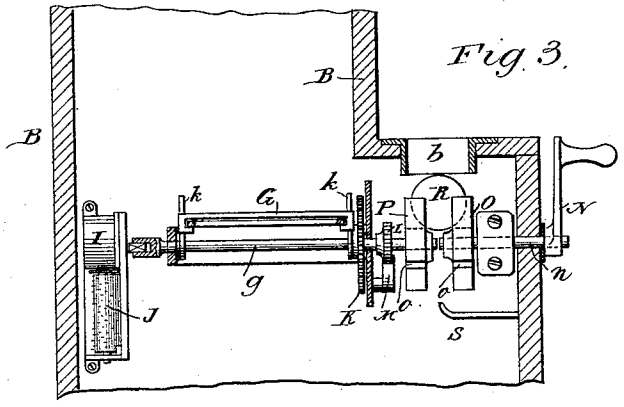
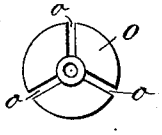


Fig. 4.



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COIN-OPERATED MACHINE.

SPECIFICATION forming part of Letters Patent No. 434,768, dated August 19, 1890.

Application filed April 24, 1890. Serial No. 349,250. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC B. COCHRAN, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Coin-Operated Machines, of which the following is a full, clear, and exact description.

My invention has for its object to improve the construction of coin-operated machines in such manner that a music-producing device provided with a motor is combined with a coin-controlled device operative from outside the machine-casing and adapted when actuated to start the motor and produce music.

The invention will first be described, and then will be particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side view of portions of a coin-operated machine showing a rotary music-producing device adapted to be operated through the medium of a reciprocating coin-controlled plunger operative from outside the machine-casing. Fig. 2 is a plan view thereof in section on the line $x\,x$, in Fig. 1, and shows more clearly the goods-delivering device of the machine. Fig. 3 is a sectional side view showing a rotary music-producing device arranged for operation by a coin-controlled rotating crank or handle operative from outside the machine-casing; and Fig. 4 is a detail view of one of the twin slotted disks shown in Fig. 3.

I make this improved coin-operated machine with a music-producing device, which is provided with a motor combined with a coin-controlled device operative from outside the casing of the machine and adapted when actuated to start the motor and produce music.

In carrying out the invention, I prefer to use a reciprocating coin-controlled plunger and a rotary music-producing device, and I will first describe these and one desirable form of goods-delivery mechanism combined with them, with reference to Figs. 1 and 2 of the drawings, and as follows:

The plunger A, which is operative from outside the casing B of the machine, is fitted to slide in suitable bearings $a\ a$ in the casing, and at its inner end carries a coin-holder or bucket C, which has a vertical slot c for the coin, and a horizontal slot c' crossing said slot c and admitting one end of an auxiliary plunger-rod D, which also has a bearing in an arm d' fixed to the goods-delivery-device frame. A suitable funnel c^2 feeds into the plunger bucket-slot c a proper coin passed down a chute c^3 from a slot in the machine-casing in a well-known manner. The coin E—one cent, for instance—after passing into the bucket C lodges upon the center or hub portion of a star-wheel F, which is fixed to the prime motor-shaft g of the goods-delivery device G, shown and hereinafter more particularly described. When a coin E rests on the star-wheel hub, one of the wheel tappets or arms f stands behind the coin, so that when the plunger A is pulled outward the coin will turn the star-wheel partly around to operate the mechanism G and deliver one piece of goods before the coin drops off the wheel and from the plunger-bucket.

The auxiliary plunger device D preferably has a head d, which opposes a lever or arm H, fixed to the shaft of a motor adapted to impart motion to a rotary music-producing device. This motor is preferably a spring-motor I, having a coiled spring fitted in any well-known or approved manner within a casing and geared with the rotary music-producing device, which is preferably a barrel J, having pins which operate on a series of spring-tongues, as in an ordinary music-box; but any other music-producing device operative by a rotary motion may be employed. It will be noticed that when a coin E is deposited in the plunger-bucket C and upon the star-wheel F, the coin also opposes one end of the auxiliary plunger-rod D, and whereby as the plunger A is operated from outside the casing B of the machine the rod D will be moved endwise by the coin and will turn the spring-motor shaft lever or arm H and thereby wind up or put in tension the motor-spring which will, by its reaction, rotate the music device—in this instance the pin-barrel J—and produce music during the time the spring is resuming its normal uncoiled condition.

I am not limited to any particular style of

goods-delivery device; but, to illustrate a complete mechanism, I show the device G, which consists of a table g', having a series of apertures g^2, through any one of which one piece of goods for which the deposited coin had paid will be dropped by the action of one edge of either of two slides g^3 g^3, which are properly reciprocated by tappet-arms k, fast to shafts of a train of gear-wheels K, which are driven from the star-wheel F, as it is turned partly around by each operation of the plunger A. A ratchet-wheel L on the motor-shaft g of the goods-delivery device G is engaged by a pawl M to prevent undue motion of the star-wheel and the gearing which it operates. Each time the plunger A is operated after a coin is dropped behind the auxiliary plunger-rod D onto the star-wheel F, one piece of goods—a confection or a cigarette, for instance—will be dropped to any suitable discharge-opening of the casing B, and the rotary music-producing device will be operated. By using a coiled-spring motor for the rotating music device a whole tune may be played after deposit of a coin in the machine. If no coin be deposited and the plunger A is operated, the rod D, which actuates the music-motor, will simply pass through the slot or hole c' of the coin-bucket and music will not be produced.

It is manifest that many modifications of my invention may be made by the skilled mechanic, and, as an illustration, I show in Figs. 3 and 4 of the drawings another example of the invention, in which is employed a rotating crank-handle device operative outside the casing B of the machine, instead of a reciprocating plunger, for actuating a coin-controlled mechanism, which operates a music-producing device after a coin is deposited in payment for a piece of goods. In this construction the crank N, outside the casing B, is fixed or held to a short shaft n, which is in alignment with, but normally uncoupled from, the prime motor-shaft g of a goods-delivery device G, like the one hereinbefore described. This shaft n carries fixedly a disk O, having one or more radial slots o, three slots being shown. On the adjacent end of the delivery-device shaft g is fixed another disk P, like the one O, and similarly slotted. These twin disks O P are arranged immediately under or at the casing-slot b, through which a coin R may be dropped or inserted into two registering-slots of the two disks, thereby coupling the disks and causing both to turn together as the outside handle or crank N is rotated. The inner or farther end of the delivery-device shaft g is connected with the spring-winding shaft of the motor I, which actuates the music-barrel J, or it may be any other rotating music-producing instrument. It is obvious that when the twin disks O P are coupled by the deposited coin R, as shown in Fig. 3, and the crank or handle N is turned, the coin will cause the delivery of a piece of goods by the mechanism G, and until the coin is thrown from the disks by an arm S, fixed to the machine-casing, the spring of the motor I will be put in tension or wound up, and when the coin is discharged from the disks to uncouple them the motor will operate the barrel J to produce music until the reacting spring runs down. A pulley-and-weight device may be substituted for the spring-barrel of the motor.

I may make the coin-operated machine without a goods-delivery device, in which case it would be a coin-controlled music-producing box or machine; but I more especially intend to use it with any suitable goods-delivery device, thus making it an automatic coin-controlled machine for vending small wares adapted for delivery from machines of this character.

I specially mention that in my improvement, whether the music-producing device be operated or be adjusted for operation by a reciprocating plunger or by a rotative device actuated from outside the machine-casing, the deposited coin is interposed in the coin-controlled mechanism to cause said coin to operate or adjust the music-producing device. In other words, the coin must first be deposited by a *bona fide* purchaser before music can be produced by operating the coin-controlled mechanism at or from the outside of the machine-casing. This obviates tampering with the machine by persons wishing only to hear the music and who would actuate the plunger or rotative handle for this purpose.

I am not aware of a coin-operated machine having a music-producing device actuated upon the principles of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a coin-operated machine, the combination, with a music-producing mechanism provided with a motor, of a coin-operated motor-controlling mechanism normally in inoperative relation to said motor until after deposit of a coin, and having a movable part extending outside of the case adapted, when moved in one direction to wind or place the motor into condition to act, and when released or moved in the opposite direction to release or set in action said motor, substantially as set forth.

2. In a coin-operated machine, the combination, with the goods-delivering mechanism and a music-producing mechanism provided with a motor, of a coin-operated mechanism controlling said motor and the delivery mechanism, said coin-operated mechanism being normally in inoperative relation to said motor and delivery mechanism until after deposit of a coin, and having a movable part extending outside of the case adapted when moved in one direction to wind up or place the motor in operative condition and also to actuate the goods-delivery mechanism, and when released or moved in the opposite direction upon the dropping of the coin to re-

lease or set in action said motor, and also permit the return of the goods-delivery mechanism to its normal position, substantially as set forth.

3. A coin-operated machine made with a rotating music-producing barrel or device and a coiled-spring motor therefor, provided with an arm or lever on the spring-winding shaft, combined with a coin-controlled device operative from outside the machine-casing, and which when actuated opposes the spring-shaft arm and winds the spring to enable it, by uncoiling, to produce music, and a goods-delivery mechanism actuated from the coin-controlled device.

4. In a coin-operated machine, the combination, with a revoluble music-producing device and a coin-operated controlling mechanism therefor having a coin-holder and a part extending outside the case for operation thereat, of a coiled-spring motor for said music device having an arm on the spring-winding shaft, and a rod interposed between a coin deposited in the holder and the arm of the spring-winding shaft, substantially as described.

5. A coin-operated machine made with a rotating music-producing barrel or device and a coiled-spring motor therefor, having an arm or lever on its spring-winding shaft, combined with a plunger device operative from outside the machine-casing, and which when actuated opposes the spring-motor shaft arm or lever to wind the spring to enable it by uncoiling to rotate the barrel or device and produce music.

6. In a coin operated machine, the combination of a music-producing mechanism, a goods-delivery mechanism, and a coin-operated controlling mechanism therefor, having a coin-holder, and a part extending outside the case for operation thereat, said music-producing mechanism and goods-delivery mechanism being in inoperative relation to the coin-controlling mechanism normally and until after deposit of a coin in said holder, said coin then forming the connection between the coin-controlling mechanism and the music-producing and goods-delivery mechanisms, substantially as described.

7. In a coin-operated machine, the combination of a music-producing mechanism, a goods-delivery mechanism consisting of an apertured table, one or more slides working on said table, and a tappet-wheel geared to said slide or slides, and a coin-operated controlling mechanism therefor having a coin-holder and a part extending outside the case for operation thereat, said music-producing mechanism and goods-delivery mechanism being in inoperative relation to the coin-controlling mechanism normally and until after deposit of a coin in the holder, said coin then forming the connection between the coin-controlling mechanism and the music-producing and goods-delivery mechanisms, substantially as described.

8. A coin-operated machine made with a music-producing barrel or device and a motor therefor, combined with a coin-controlled plunger operative from outside the machine-casing and provided with a coin-bucket having crossing slots or apertures, one adapted to receive a coin, and an auxiliary push-rod actuated by the coin in the bucket and adjusting the motor to produce music, said push-rod adapted to slip through the other slot of the coin-bucket when no coin rests therein to prevent production of music.

FREDERIC B. COCHRAN.

Witnesses.
HENRY L. GOODWIN,
EDGAR TATE.